

LiMPETS

Long-term Monitoring Program and Experiential Training for Students

Education Mini-Grant Accomplishments Report



Rocky intertidal monitoring on Anacapa Island. Photo: Coke Smith

- **62 LiMPETS formal and informal educators in California, Oregon, Washington, and Alaska**
- **approximately 3500 students impacted by the LiMPETS network**
- **hosted 8 LiMPETS workshops along the West Coast of the United States for 118 educators**
- **10 new rocky intertidal and sandy beach monitoring sites established**
- **8 sites planned for establishment in 2006**



The LiMPETS network provides teachers with professional development training for using marine science protocols in the classroom and in the field. LiMPETS teaches students to appreciate the marine environment and its complexities, as well as to understand the importance of the scientific process and the need for monitoring natural resources. Not only does this program provide another set of long-term data that can be used to follow changes; it also introduces people of all ages to the rich biota of five west coast national marine sanctuary ecosystems and builds a group of well-informed, concerned citizens who will watch over these habitats in the future.

Funding from the FY04 Education Mini-Grant in the amount of \$25K supported the following initiatives: a successful West Coast teacher workshop for 28 educators from three coastal states;



Students conducting sandy beach monitoring in Oregon. Photo: Aelfric Wolf

continued development of the LiMPETS network database and web site, including data entry of 20 years of data collected in the Monterey Bay National Marine Sanctuary; contract services to support the establishment of new rocky intertidal and sandy beach monitoring sites; and the creation of the next generation of monitoring equipment.

The education staff of the West Coast national marine sanctuaries hosted 28 teachers from Washington, Alaska and all parts of California to be trained in rocky intertidal and sandy beach ecosystem monitoring. The LiMPETS network trains teachers and students marine science monitoring protocols in order to collect



Educators working on photo quadrats in a classroom setting. Photo: Claire Johnson/NOAA

reliable and valid data that will assist scientists and resource managers in making informed decisions about America's ocean treasures. This year's West Coast LiMPETS Teacher Workshop was hosted by the Channel Islands National Marine Sanctuary at El Capitan Canyon on March 3-6, 2005. Evaluation data collected states that 92% of teachers rated the quality of the workshop extremely high; 88% of the participants are more likely to integrate marine science into their classroom as a result of the workshop and all of the participants made note that the West Coast LiMPETS Teacher Workshop met their objectives and expectations. Twenty of the twenty-five people that completed evaluation forms felt prepared and confident enough to implement a LiMPETS rocky intertidal and/or sandy beach monitoring program at their school or organization. We also found that 76% of workshop participants are interested in learning more about other national marine sanctuary education programs. The full pre-

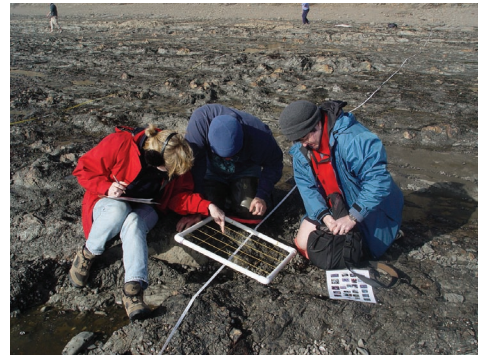


Participants from the West Coast LiMPETS Teacher Workshop. Photo: Coke Smith

and post-workshop evaluation forms are attached as appendices.

A participant of the March 2005 West Coast LiMPETS Teacher Workshop hosted an additional workshop in September 2005 at the LA County Outdoor School for 16 participants to bring the LiMPETS monitoring protocols and program to LA county schools and the Cabrillo Marine Aquarium in San Pedro. Other workshops included a professional development opportunity for 14 University of Minnesota advanced biology students, two professors, and an Olympic Park Institute field instructor at the new Salt Creek County Park rocky intertidal monitoring site. This workshop was hosted by the Olympic Coast National Marine Sanctuary. Finally, four workshops were held for 50 participants by the Gulf of the Farallones

Education Training (B-WET) grants. In FY05, eight of the 13 awarded B-WET grants included a LiMPETS component in their proposal, two of which were completely focused on introducing LiMPETS monitoring techniques and data collection to their students as the major thrust of their proposal. B-WET teacher and student numbers are not included in our summary information.



LiMPETS helps bring oceans into America's classrooms and gives students the opportunity to conduct field work. Photo: Kathy deWet-Oleson



Emerita analoga – The Pacific mole crab monitored following the LiMPETS sandy beach protocols. Photo: Field Study student



Sand crab monitoring. Photo: Claire Johnson
National Marine Sanctuary and Farallones Marine Sanctuary Association.

In 2005, 62 teachers were actively involved in the LiMPETS network in Washington, Oregon, California, and Alaska. These teachers provided field monitoring opportunities for approximately 3,500 students using LiMPETS protocols, and these students have been reached with sanctuary messages through the LiMPETS program. Since the program was initiated, additional interest has spawned from teachers, schools and organizations pulling together their own LiMPETS programs with support from the Bay Watershed and

With the increased participation in the LiMPETS network, it has become necessary to establish new rocky intertidal and sandy beach monitoring sites along the West Coast that are strategically located in proximity to participating schools and organizations. It was also imperative to provide an efficient check out system for monitoring equipment, which prompted the creation of the next generation of equipment through lessons learned over the last few years. As the demand continues to increase, more monitoring sites will be established, with at least eight planned for 2006.



Under-served students enjoy a day of LiMPETS research at the beach. Photo: Kim Castagna



<http://limpets.noaa.gov>